

**AMENDMENTS TO THE CLAIMS**

1-76. (Canceled)

77. (Previously Presented) The method according to claim 143, wherein the foreign T<sub>H</sub> epitope is immunodominant in the animal.

78. (Previously Presented) The method according to claim 143, wherein the foreign T<sub>H</sub> epitope is promiscuous.

79. (Previously presented) The method according to claim 78, wherein the at least one foreign T<sub>H</sub> epitope is selected from a natural promiscuous T-cell epitope and an artificial MHC-II binding peptide sequence.

80. (Currently amended) The method according to claim 79, wherein the natural T<sub>H</sub> epitope is selected from the group consisting of a Tetanus toxoid epitope ~~such as P2 or P30~~, a diphtheria toxoid epitope, an influenza virus hemagglutinin epitope, and a *P. faciparum* CS epitope.

81-84. (Canceled)

85. (Canceled) ~~The method according to claim 133, wherein the T<sub>H</sub> epitope containing IL5 polypeptide comprises a foreign T<sub>H</sub> epitope in at least one of the loops 1-3 or in the amino acid residues C-terminal to helix D, said loops and said helix D corresponding to those shown in Fig. 3 for human and murine IL5.~~

86. (Previously presented) The method according to claim 85, wherein the IL5 polypeptide is a human IL5 polypeptide.

87. (Previously presented) The method according to claim 86, wherein the human IL5 polypeptide has been modified by substituting at least one amino acid sequence in SEQ ID NO: 1 with at least one amino acid sequence of equal or different length thereby giving rise to a foreign T<sub>H</sub> epitope, wherein substitute amino acid residues are selected from the group consisting of

residues 87-90, residues 88-91, residues 32-43, residues 33-43, residues 59-64, residues 86-91, and residues 110-113.

88. (Canceled)

89. (Previously Presented) The method according to claim 143, wherein the T<sub>H</sub> epitope-containing IL5 polypeptide is administered together with an adjuvant which facilitates breaking of autotolerance to autoantigens.

90. (Currently Amended) The method according to claim 89, wherein the adjuvant is selected from the group consisting of ~~a~~ an immune targeting adjuvant; an immune modulating adjuvant; an oil formulation; a polymer; a micelle forming adjuvant; a saponin; an immunostimulating complex matrix (as ISCOM matrix); ~~a particle~~; DDA; aluminum adjuvants; DNA adjuvants;  $\gamma$ -inulin; and an encapsulating adjuvant.

91. (Currently amended) The method according to claim 143, wherein an effective amount of the T<sub>H</sub> epitope-containing IL5 polypeptide is administered to the animal via a route selected from the parenteral route ~~such as the intradermal, the subdermal, the intracutaneous, the subcutaneous, and the intramuscular routes~~; the peritoneal route; the oral route; the buccal route; the sublingual route; the epidural route; the spinal route; the anal route; and the intracranial route.

92. (Previously presented) The method according to claim 91, wherein the effective amount is between 0.5  $\mu$ g and 2,000  $\mu$ g of the IL5 polypeptide.

93. (Previously presented) The method according to claim 91, which includes at least one administration of the IL5 polypeptide per year.

94. (Previously presented) The method according to claim 91, wherein the IL5 polypeptide is contained in a virtual lymph node (VLN) device.

95. (Previously presented) The method according to claim 90, wherein said immune modulating adjuvant is a member selected from the group consisting of a toxin, acytokin and a mycobacterial derivative.

96-141. (Canceled)

142. (Currently Amended) A method for treating asthma or other chronic allergic conditions characterized by eosinophilia, the method comprising administering to a patient in need thereof an immunogenically effective amount of

- at least one T<sub>H</sub> epitope-containing IL5 polypeptide wherein said T<sub>H</sub> epitope-containing IL5 polypeptide differs from the animal's autologous IL5 polypeptide in that the T<sub>H</sub> epitope-containing IL5 polypeptide comprises at least one foreign T<sub>H</sub> epitope inserted into the amino acid sequence of the animal's autologous IL5 polypeptide, whereby immunization of the animal with the T<sub>H</sub> epitope-containing IL5 polypeptide produces antibodies against the animal's autologous IL5 polypeptide whereby said T<sub>H</sub> epitope-containing IL5 polypeptide reacts to the same extent with an antiserum raised against the animal's autologous IL5 as does the autologous IL5 and wherein the T<sub>H</sub> epitope-containing IL5 polypeptide comprises a foreign T<sub>H</sub> epitope in at least one of loops 1-3 or in the amino acid residues C-terminal to helix-D, said loops and said helix D corresponding to those shown in Fig. 3 for human and murine IL5, SEQ ID NO: 1 and SEQ ID NO: 12, respectively.

143. (Currently Amended) The method of *in vivo* down-regulation of interleukin 5 (IL5) activity in an animal, including a human being, the method comprising administering an immunogenically effective amount of

- at least one T<sub>H</sub> epitope-containing IL5 polypeptide wherein said T<sub>H</sub> epitope-containing IL5 polypeptide differs from the animal's autologous IL5 polypeptide in that the T<sub>H</sub> epitope-containing IL5 polypeptide comprises at least one foreign T<sub>H</sub> epitope introduced into the amino acid sequence of the animal's autologous IL5 polypeptide, whereby immunization of the animal with the T<sub>H</sub> epitope-containing IL5 polypeptide produces antibodies against the animal's autologous IL5 polypeptide and whereby said T<sub>H</sub> epitope-containing IL5 polypeptide reacts

to the same extent with an antiserum raised against the animal's autologous IL5 as does the autologous IL5 and wherein the T<sub>H</sub> epitope-containing IL5 polypeptide comprises a foreign T<sub>H</sub> epitope in at least one of loops 1-3 or in the amino acid residues C-terminal to helix D, said loops and said helix D corresponding to those shown in Fig. 3 for human and murine IL5, SEQ ID NO: 1, SEQ ID NO: 12, respectively.

144. (New) The method according to claim 80, wherein said Tetanus toxoid epitope is P2 or P30.

145. (New) The method according to claim 91, wherein said potential route is a member selected from the group consisting of the intradermal, the subdermal, the intracutaneous, the subcutaneous, and the intramuscular routes.